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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/735,656	12/16/2003	James T. Croyle	8200.793	2849

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EXAMINER

AMAYA, CARLOS DAVID

ART UNIT	PAPER NUMBER
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2836

DATE MAILED: 05/19/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/735,656	Applicant(s) CROYLE, JAMES T.	
	Examiner Carlos Amaya	Art Unit 2836	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 16 December 2003.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-15 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 16 December 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>12/16/03, 05/19/05</u> | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-15 are rejected under 35 U.S.C. 102(b) as being anticipated by Choi (US 4,882,665)

With respect to claim 1 Choi discloses a pulse discharge apparatus (See abstract) comprising: an electrical load (Load Figure 1); an electrical power source (Supply P); and at least one pulse discharge switch module (Power supply branches 20a to 20n); said at least one pulse discharge switch module including: at least one capacitor (Capacitors 24) for storing an electrical energy; a semiconductor high-power switch (Discharging thyristor 26, since this switch is used to generate pulsed power it is assumed that this is a high power switch) having an input connected in series to said at least one capacitor for allowing said stored electrical energy to be transferred from said at least one capacitor to said load (Figure 1); and a semiconductor low-power switch (Charging thyristor 22, since this switch is used to charge the capacitors it is assumed that this is a low-power switch) having an input connected in series to said at least one capacitor for allowing charging supply from said electrical power source charge said at least one capacitor (Thyristor 22 allows Capacitor 22 to be charged with power from

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supply P); wherein said high-power switch and said low-power switch are connected to the same terminal of said at least one capacitor (Figure 1 shows Thyristor 26 and 22 serially connected with capacitor 24).

With respect to claim 2 Choi discloses the pulse discharge apparatus as defined in claim 1, including a plurality of said pulse discharge switch modules connected in parallel with one another (Figure 1 contains branches 20a to 20n).

With respect to claim 3 Choi discloses the pulse discharge apparatus as defined in claim 2, wherein said plurality of said pulse discharge switch modules are substantially identical to each other (From Figure 1 one can see that the branches 20a to 20n are similar).

With respect to claim 4 Choi discloses the pulse discharge apparatus as defined in claim 1, wherein said at least one pulse discharge switch module includes a plurality of said capacitors connected in series or in parallel with one another (Figure 1 shows a plurality of capacitors connected in parallel with one another).

With respect to claim 5 Choi discloses the pulse discharge apparatus as defined in claim 1, further including a module trigger selector (Control unit 40 Figure 3 and control unit 50 Figure 5) provided for controlling said at least one pulse discharge switch module and operatively coupled thereto (Column 4 lines 65-68, Column 5 lines 1-2).

With respect to claim 6 Choi discloses the pulse discharge apparatus as defined in claim 5, further including a human interface device provided for controlling said module trigger selector (Control unit 50 of Figure 5 with operator input/output devices, Column 6 lines 38-42).

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With respect to claim 7 Choi discloses the pulse discharge apparatus as defined in claim 2, further including a module trigger selector (Control unit 50) operatively coupled to each of said plurality of said pulse discharge switch modules, said module trigger selector is provided for independently and selectively controlling each of said plurality of said pulse discharge switch modules in order to selectively operate a selected number of said plurality of said pulse discharge switch modules (Column 1 lines 57-63, Column 7 lines 12-19, depending on the desired output power the different branches are selected to supply power).

With respect to claim 8 Choi discloses the pulse discharge apparatus as defined in claim 7, further including a human interface device provided for controlling said module trigger selector (Control unit 50 of Figure 5 with operator input/output devices, Column 6 lines 38-42).

With respect to claim 9 Choi discloses the pulse discharge apparatus as defined in claim 1, wherein said low-power switch of said at least one pulse discharge switch module includes a semiconductor-controlled rectifier (Column 4 lines 6-9, See also abstract).

With respect to claim 10 Choi discloses the pulse discharge apparatus as defined in claim 1, wherein said high-power switch of said at least one pulse discharge switch module includes a semiconductor-controlled rectifier (Column 4 lines 6-9, See also abstract).

With respect to claim 11 Choi discloses the pulse discharge apparatus as defined in claim 10, wherein said high-power switch of said at least one pulse discharge switch

module further includes a diode connected in parallel to said semiconductor-controlled rectifier (Figure 1 Diode 28 is connected in parallel with discharging switch 26).

With respect to claim 12 Choi discloses the pulse discharge apparatus as defined in claim 1, wherein said pulse discharge apparatus is a magnetic pulse welding machine (Choi discloses that the invention could use to supply pulses of electrical energy to loads such as arc welders and resistive welders; also Figure 1 shows and inductive load).

With respect to claim 13 Choi discloses the pulse discharge apparatus as defined in claim 12, wherein said electrical load is an inductive coil of said magnetic pulse welding machine (Figure 1 shows an inductive load L, this load could represent the coil of a welding machines as disclosed by Choi).

With respect to claim 14 Choi discloses the pulse discharge apparatus as defined in claim 1, wherein said electrical power source provides a charging current to said at least one capacitor (Source P through charging thyristor 22 provide a charging current to the Capacitor 24).

With respect to claim 15 Choi discloses a pulse discharge apparatus comprising: an electrical load; a D.C. electrical power source (Column 3 lines 26-29), a plurality of substantially identical pulse discharge switch modules connected in parallel with one another (Branches 20a to 20n); each of said pulse discharge switch modules including: a capacitor for storing an electrical energy (Capacitor 24), a semiconductor high-power switch (Thyristor 26) having an input connected in series to said capacitor for allowing said stored electrical energy to be transferred from said capacitor to said load, said

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high-power switch including a semiconductor-controlled rectifier and a diode connected in parallel to said semiconductor-controlled rectifier (Discharging Thyristor 26 parallel diode 28 figure 1 are used to supply energy from capacitor 24 to the load); a semiconductor low-power switch (Thyristor 22) having an input connected in series to said capacitor for allowing charging supply from said electrical power source charge said capacitor, said low-power switch including a semiconductor-controlled rectifier (Thyristor 22 charges capacitor 24 from the power source); said high-power switch and said low-power switch are connected to the same terminal of said capacitor (Figure 1 shows the two switches connected to the same terminal of capacitor 24); a module trigger selector (Control unit 40 and 50) electrically coupled to each of said plurality of said pulse discharge switch modules, said module trigger selector provided for independently and selectively controlling each of said plurality of said pulse discharge switch modules in order to selectively operate a selected number of said plurality of said pulse discharge switch modules (Column 1 lines 57-63, Column 7 lines 12-19, depending on the desired output power the different branches are selected to supply power); and a human interface device provided for controlling said module trigger selector (Control unit 50 of Figure 5 with operator input/output devices, Column 6 lines 38-42).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to the examiner's supervisor, Brian Sircus who can be

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reached on (571)272-2058. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

CA



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